

## Please Remember!

1. **DO wear non - metallic and non - magnetic clothing** that is easily removed.
2. Female Subjects – please wear a sports bra; **DO NOT wear a bra with an under wire, metal rings or a metal clasp.**
3. Do not wear makeup – **NO mascara, eye liner, eye shadow, blush, foundation, lipstick/lip gloss/chapstick, nail polish,** etc.
4. No jewelry – **NO watch, necklace, earrings, nose ring, belly ring, rings on fingers or toes,** etc.
5. Do not dye or color your hair prior to the MEG
6. No hair pins, barrettes or other hair items that may contain metal.
7. Do not dye your hair prior to the scan; hair dyes generally contain metal.
8. **NO caffeine, nicotine or sugar** 8-24 hours prior to the MEG if you do not usually use these products.
9. Please be sure to **DO GET adequate sleep the night prior to the scheduled appointment** so that you are well rested – awake and alert for scanning.
10. If you wear glasses and have contact lens, please **DO wear contacts.** Bring your glasses and also a moisturizer / saline solution in case your eyes get dry / irritated.

### Directions To The MEG Core Facility

- The MEG Lab is located in Building 10 Room B1D65B.
- Follow the signs to the NMR Research Center which is located on the first basement (B1) level.
- Inform the receptionist in the NMR Center Patient Waiting Area (B1D66) of your arrival.
- If the receptionist is unavailable, take the corridor directly opposite the reception area to room B1D65B. Look for the MEG 1 sign above the door. Please knock on the door.



## MEG Core Facility

National Institute of Mental Health (NIMH)  
9000 Rockville Pike

Bethesda, MD 20892-1059

Acquisition Console Phone: 301/402-7847

Analysis Workstation: 301/496-7856

FAX: (301) 480-7795

Website: <http://kurage.nimh.nih.gov/meglab>

### Contact Information

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## MAGNETOENCEPHALOGRAPHY (MEG)



*VALIDATED FREE PARKING:*  
*In order to get your parking validated you must first register at Patient Registration in the Clinical Center-Bldg 10*  
*Use the Visitor's Parking Deck - P1 Level*  
*or*  
*Valet Parking in front of the Hatfield Clinical Center Bldg 10 (new building)*  
View Visitor's Parking Map at -  
[http://parking.nih.gov/visitor\\_access\\_map.htm](http://parking.nih.gov/visitor_access_map.htm)

Date:

Time:

Location: **Bldg 10 / B1 D65B**

Form MEG 1-039 8/12; 10/16

## What is MEG?

**MEG** measures tiny magnetic fields which are generated as a result of the electrical activity of the neurons in the brain. The MEG procedure consists of sitting in a chair or lying on a bed after the head has been placed into the helmet shaped device that contains magnetic field sensors. The sensors detect weak magnetic fields from outside the head produced by brain activity. It is a completely non-invasive process and it does not use strong magnets, radioactivity nor injected contrast agents. The scan is safe and completely painless and poses absolutely no risk. The MEG procedure is similar to EEG.

### How Long Does It Take?

A MEG scan may take from an hour to as long as several hours depending upon what other procedures are included, i.e., EEG, Auditory, Visual, or Somatosensory Evoked Fields (or Evoked Potentials).

### What Can I Expect?

#### **Head Measurement**

Your head will be sized/measured to determine if it will fit the specifications of the inside of the helmet (gantry) which can generally accommodate head size up to 60 cm. If it is determined that your head is not a good fit you will be informed that you have not been selected for scanning.



#### **De-Metaling**

Most metal and magnetized objects will cause artifact in the MEG scan resulting in a poor recording. In order to keep any electrical interference to a minimum the MEG System has been placed in a Magnetically Shielded Room (MSR). Before entering the MSR you will be asked to remove any metallic/magnetic objects from your person.

- Anyone who arrives with magnetic parts on their clothing that cannot be easily removed will be asked to wear non-magnetic clothing which will be provided by staff.
- Avoid wearing foundation, mascara, eye liner and eye shadow before testing. Anyone who arrives with "make-up" will be asked to remove it.
- Female subjects will be asked to wear a sports bras or a bra that does not have an under wire.
- You will be asked to remove your shoes before entering the MSR to prevent any magnetic dust from getting into the room.

#### **De-Magnetizing**

If you have any embedded metal within your body, i.e., dental work, a demagnetizer might be used to de-magnetize the metal so that it does not cause artifact during the recording.

#### **Head Coil Placement**

Fudicial Head Coils will be placed between the eyebrows and near each ear. These coils help to determine your head position in the gantry and determine the amount of head movement during testing.



- Marks will be placed at the junction of the nose and near the ears.
- Digital picture will be taken of the marked locations in order to match the MEG data with the structural MRI.
- Head localization coils will be taped in place.

### **The Magnetically Shielded Room (MSR)**

You will be taken in the MSR which is designed to shield out magnetic interference. You will then be seated or placed on a bed.

- A head stabilizing cuff may be placed on your head to help keep your head still during scanning.
- If seated - you will be raised up into the helmet and positioned for optimum comfort.
- If supine - you will be asked to slide/push yourself into the helmet so that your head is near the top.
- You will then be instructed regarding the various tasks.